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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,072	04/19/2004	Sujcet Kumar	2950.19US02	1878
62274 7590 06/15/2007 DARDI & ASSOCIATES, PLLC 220 S. 6TH ST. SUITE 2000, U.S. BANK PLAZA MINNEAPOLIS, MN 55402			EXAMINER YUAN, DAH WEI D	
			ART UNIT 1745	PAPER NUMBER
			MAIL DATE 06/15/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/827,072

Applicant(s)

KUMAR ET AL.

Examiner

Dah-Wei D. Yuan

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1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 11-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 07222004,04042005,03292007.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**LITHIUM METAL OXIDES**

Examiner: Yuan

S.N. 10/827,072

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June 5, 2007

***Election/Restrictions***

1. Applicant's election without traverse of Group I-1, claims 1-10, in Paper filed May 21, 2007 is acknowledged. Therefore, claims 11-33 are withdrawn from consideration.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3,5,7-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaneda et al. (US 6,638,662 B2).

With respect to claims 1-3,5,7, Kaneda et al. teach a positive electrode active material of lithium cobalt nickel oxide ( $\text{Li}_x\text{Ni}_y\text{Co}_{(1-x)}\text{O}_2$  wherein  $0 \leq x \leq 1.2$  and  $0 \leq y \leq 1$ ) having an average particle size of 3 to 40 nm. See Column 6, Lines 51-59.

With respect to claims 8,9, Kaneda et al. do not specifically disclose the particle size distribution of the lithium cobalt composite oxide. However, it is the position of the examiner that such properties are inherent, given that both Kaneda et al. and the present application having similar average particle size. A reference which is silent about a claimed invention's features is

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inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999).

With respect to claim 10, Kaneda et al. teach the use of the lithium oxide as the cathode active material in a battery. See abstract.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6,7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneda et al. (US 6,638,662 B2) as applied to claims over 1-3,5,7-10 above, and further in view of Narukawa et al. (US 6,534,216 B1).

Kaneda et al. disclose a lithium cobalt composite oxide as described above in Paragraph

3. Kaneda et al. disclose the positive electrode active material include composite oxides such as lithium cobalt oxide, lithium nickel oxide, lithium manganese oxide, lithium nickel cobalt oxide, etc. However, Kaneda et al. do not specifically disclose the lithium cobalt oxide is  $\text{Li}_2\text{CoMnO}_4$  or  $\text{Li}_2\text{CoAlO}_2$ . Narukawa et al. teach a positive electrode active material for a non-aqueous electrolyte battery, wherein a portion of the lithium cobalt oxide may be substituted for a different kind of metal selected from the group consisting of Mg, Al, Ca, V, Ti, Cr, Mn, Fe, Co, Ni, Cu, Zn, Sr, Zr, Nb Mo and Sn. See Column 7, Lines 52-60. It can be understood that

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$\text{Li}_2\text{CoMnO}_4$ ,  $\text{Li}_2\text{CoAlO}_2$  and  $\text{Li}_2\text{CoNiO}_4$  are considered functionally equivalent positive electrode active material. Therefore, it would have been obvious to one of ordinary skill in the art to substitute  $\text{Li}_2\text{CoMnO}_4$  (or  $\text{Li}_2\text{CoAlO}_2$ ) for  $\text{Li}_2\text{CoNiO}_4$  as the positive electrode material in the battery disclosed by Kenada that has the average diameter less than about 100 nm.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan  
June 5, 2007



**DAH-WEIYUAN**  
**PRIMARY EXAMINER**